

reach, according to Valenciennes, to the gill-opening, if not beyond it, here only attain to beneath the middle of the eye; and this character is invariable in five specimens which Mr. Darwin has brought home. Judging from the description, there would seem to be one or two further differences: the profile appears to be more rectilineal, the pectoral spine shorter, and smoother on its external margin. The colours are on the whole similar, but the pectorals and ventrals darker: the latter, which are said to be yellow in the *C. punctatus*, are here quite dusky in every one of the specimens.

The exact locality in South America in which Mr. Darwin obtained this species is uncertain, as the specimens have lost their attached labels.

# FAMILY.—CYPRINIDÆ.

## 1. PÆCILIA UNIMACULATA. Val.

*Pæcilia unimaculata*, Val. in Humb. Zool. et Anat. Comp. vol. ii. p. 158. pl. 51. fig. 2.

FORM.—Body oval, slightly elongated, thick anteriorly, compressed behind. The dorsal and ventral lines meeting at the mouth at an acute angle; but the head, when viewed from above, broad, and very much flattened between the eyes, and the snout obtuse. Greatest depth about one-fourth of the entire length: thickness two-thirds of the depth. Length of the head nearly equalling, or a little less than, the depth of the body. Mouth small: jaws very protractile; each with a single row of very fine, close-set, pointed teeth; the lower one a trifle the longest. Eyes large, their diameter three and a half times in the length of the head, high in the cheeks, reaching to the line of the profile. Nostrils consisting of one small orifice a little above and rather in advance of the eyes.

Scales large, investing the head and all the pieces of the gill-cover, though very thin and transparent on the opercle and not very obvious there. On the body there are about eight in the depth, and twenty-seven or twenty-eight in a longitudinal row from the gill-opening to the caudal. One taken from the middle of the side found to be of a semi-elliptic form, the exposed portion marked with numerous very fine curved concentric lines, the basal with sixteen or seventeen deeper-cut nearly parallel striæ gradually lengthening from the sides towards the middle, but not converging to a fan. Lateral line very faintly marked out by a dotted line, scarcely obvious in some places.

Dorsal small, commencing exactly at the middle point of the entire length, measuring this last quite to the extremity of the caudal. Anal similar and opposite; in strictness, however, terminating a very little in advance. The last ray in both these fins double: the first two in the anal short. Caudal rounded. Pectorals and ventrals small and narrow, the former three-fourths the length of the head; the latter not above half the same. The pectorals, when laid back, reach to the insertion of the ventrals, but the ventrals hardly reach to the commencement of the anal.

B. 5; D. 7; A. 9; C. about 24, including short ones; P. 14 or 15; V. 6.

Length 2 inches.

COLOUR.—Greenish-brown, with a conspicuous black spot on the middle of each side, a little in advance of the commencement of the dorsal. Dorsal a little dotted and mottled with dusky, especially towards the tips of the rays. The other fins plain.

Habitat, Rio de Janeiro.

This species, which was discovered by Humboldt, was observed by Mr. Darwin in great numbers in fresh-water ditches at Rio de Janeiro: others were taken in equal plenty in a salt lagoon. The bellies of the females are very turgid when big with young, which are said to be excluded alive, and yellowish.—Valenciennes, in his description, speaks of the opercle as being smooth, or without scales, though he says the preopercle is covered with scales; and he would lead one to suppose that they are absent on this part in the whole genus, as it enters into his generic character; I find them, however, present, though very thin and transparent, both in this species and the next.

The general resemblance which *Pæcilia* bears to *Mugil*, as regards the form of the head and mouth, is very striking, and calls up irresistibly the idea of some relation of analogy between these two genera.

## 2. PÆCILIA DECEM-MACULATA. Jen.

PLATE XXII. Fig. 1.

*P. corpore sub-elongato, viridescenti-fusco; lateribus maculis nigris circiter decem serie longitudinali dispositis; pinnis immaculatis: dentibus subincisivis: caudali subtruncatâ.*

D. 8; A. 10; C. 22, brevibus inclusis; P. 9; V. 5.

LONG. unc. 1. lin. 4.

FORM.—More elongated than the last species; the snout not so acute when viewed laterally.

Depth not more than one-fifth of the entire length, the length of the head being equal to it. Mouth and jaws similar; the teeth also in one row in each jaw, and forming a compact series, but more incisor-like than pointed, with oblique cutting edges. Scales of a different form and sculpture; more oblong than semi-elliptical, broader than long; the deep striæ behind more numerous, amounting to twenty or more, and all drawn nearly of the same length. They cover all the pieces of the opercle as in the *P. unimaculata*.

Dorsal and anal exactly opposite, commencing at a point a little anterior to the middle of the entire length, reckoning this to the extremity of the caudal. Caudal rather more approaching to square than rounded; the number of rays fewer than in the last species. Pectorals narrower, having also fewer rays. Ventrals very small, scarcely more than half the length of the pectorals. When laid back, the pectorals reach to beyond the insertion of the ventrals: the ventrals do not attain to the anal.

COLOUR.—Greenish-brown, with about ten conspicuous somewhat oval-shaped dusky spots, arranged in a longitudinal line along the middle of each side. All the fins plain.

Habitat, Maldonado.

This, which is evidently a new species of *Pæcilia*, was taken by Mr. Darwin